

February 15, 2017

REMEDIAL INVESTIGATION / FEASIBILITY STUDY

**Progress Report #9
November 2016 through January 2017**

Prepared for

**COLUMBIA FALLS ALUMINUM COMPANY, LLC
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1.0 INTRODUCTION

This Progress Report (Report) presents a summary of activities completed during the period of November 2016 through January 2017, on behalf of Columbia Falls Aluminum Company, LLC (CFAC), for the Remedial Investigation / Feasibility Study (RI/FS) being performed at the Anaconda Aluminum Co. Columbia Falls Reduction Plant (a/k/a Columbia Falls Aluminum Plant) generally located near Columbia Falls in Flathead County, Montana (“Site”). The RI/FS is being conducted pursuant to the Administrative Settlement Agreement and Order on Consent (AOC) dated November 30, 2015 between CFAC and the United States Environmental Protection Agency (USEPA) (CERCLA Docket No. 08-2016-0002).

This Report provides a description of the actions that have been taken to comply with the AOC during the reporting period and describes work planned for the upcoming reporting period, including an updated project schedule as Appendix A. This report also provides updates regarding the availability of any new, validated sampling data received by CFAC during the reporting period. Lastly, this Report provides an update on any scope revisions and/or project delays encountered and solutions implemented to address any changes.

2.0 WORK COMPLETED

This Section provides a summary of activities completed or ongoing from November 2016 through January 2017.

2.1 Preparation of Draft Phase I Site Characterization Data Summary Report

During this reporting period, Roux Associates and CFAC continued reviewing and evaluating the field and laboratory data generated during the Phase I Site Characterization field program completed from April 2016 through September 2016. The results are being utilized to prepare a draft Phase I Site Characterization Data Summary Report and Screening Level Ecological Risk Assessment (SLERA) Summary Report, which will be submitted to the USEPA and MDEQ for review on, or before, March 1, 2017.

2.2 Surface water Sampling

The Scope of Work outlined in the RI/FS Work Plan and Phase I Site Characterization Sampling and Analysis Plan (Phase I SAP) includes four rounds of surface water sampling. The first round of sampling was completed in September 2016 and the field activities were summarized in previous Progress Reports. The results of the first round of sampling and data evaluation will be provided in the Phase I Site Characterization Data Summary Report (As discussed above in Section 2.1).

The second round of surface water sampling was completed during this reporting period, from November 30, 2016 through December 20, 2016. During round two, surface water samples were able to be collected from 19 locations within the Flathead River, Cedar Creek, the South Percolation Ponds, the Northern Surface Water Area, and the Cedar Creek Reservoir Overflow Drainage Ditch. No samples were collected from proposed sampling locations that were observed to be dry, including one location in the Northern Surface Water Feature (CFSWP-022) and four locations within the Cedar Creek Reservoir Overflow Drainage Ditch (CFSWP-009 through 012). Additionally, the proposed locations in the North-Percolation ponds (CFSWP-023 and 024) were not sampled during either round due to being dry.

One surface water sampling location within Cedar Creek (CFSWP-025) was added to the surface water sampling Scope of Work during round two as an opportunity sample, based on the results of the round one sampling. The sample was collected to evaluate surface water upgradient of location

CFSWP-015, where cyanide was detected at a concentration of 2.3 µg/L during round one. The sample location was collected approximately 700 feet upgradient of sample location CFSWP-015 within Cedar Creek.

Surface water samples were collected in accordance with the RI/FS Work Plan, Phase I SAP, Phase I SAP Addendum, and SAP Modification #8. Similar to round one, select surface water sample locations within the Flathead River were sampled via boat as approved in SAP Modification #8. Surface water samples collected to date are summarized in Table 1. All samples were sent to TestAmerica laboratory for analysis of samples via the methods specified in the RI/FS Work Plan.

Final data validation results from the second round of surface water sampling are expected to be received in February 2017. The results from round two of sampling will be provided in the next Progress Report to be submitted for the reporting period of February 2017 through April 2017.

2.3 Groundwater Sampling

The Scope of Work outlined in the RI/FS Work Plan and Phase I Site Characterization Sampling and Analysis Plan (Phase I SAP) includes four rounds of groundwater sampling. The first round of sampling was completed in September 2016 and the field activities were summarized in previous Progress Reports. The results of the first round of sampling and data evaluation will be provided in the Phase I Site Characterization Data Summary Report (As discussed above in Section 2.1).

The second round of groundwater sampling was completed during this reporting period, from December 5, 2016 through December 19, 2016. During the second sampling event, Roux Associates and Hydrometrics collected groundwater samples at 58 monitoring well locations. Samples were unable to be collected from seven wells because there was insufficient water for sampling during the sampling event (CFMW-002, 016, 017, 018, 025, and 042). Samples were collected in accordance with the RI/FS Work Plan, Phase I SAP, and Phase I SAP Addendum. Samples collected to date are summarized in Table 2.

Final data validation results from the second round of groundwater sampling are expected to be received in February 2017. The results from round two will be provided in the next Progress Report to be submitted for the reporting period of February 2017 through April 2017.

2.4 Additional Monitoring Well Redevelopment at Elevated pH Wells

During monitoring well development and round one of groundwater sampling activities, Roux Associates observed anomalously high pH (i.e., greater than 10) in 11 of the new groundwater monitoring wells installed at the CFAC site as part of the Phase I Site Characterization. The elevated pH conditions primarily occurred in deep monitoring wells (10 of the 11 wells with elevated pH). Based on the distribution of wells with elevated pH across the Site and review of the preliminary groundwater chemistry, the elevated pH was determined to be attributable to the cement-bentonite grout used during well construction affecting water within the well.

Roux Associates provided verbal notification and written notification (via email correspondence) of the elevated pH conditions to USEPA on October 6, 2016. Roux Associates subsequently mobilized personnel from Hydrometrics (subcontractor to Roux Associates) to the Site on October 11, 2016 with the objective of further evaluating the pH conditions and determining if reducing pH levels was possible by further purging groundwater from the wells.

Hydrometrics personnel were onsite from October 11 – 14 and October 18 – 22, 2016 and purged all 11 wells that were identified as having pH over 10. During the purging, Hydrometrics monitored the pH conditions to observe whether pH was reduced. Monitoring of pH during the purging indicated that five monitoring wells still had elevated pH after purging was completed. Results of the purging activities were summarized in the previous Progress Report (i.e., Progress Report #8)

In December 2016, personnel from Cascade Drilling mobilized to the Site to perform additional well development and purging activities at the monitoring wells with pH over 10. Between December 13 and 16, 2016, Cascade Drilling visited each of the eleven well locations that were identified as having elevated pH during the first round of sampling. Cascade purged additional water from each well prior to groundwater sample collection during round two. The pH was subsequently measured by Roux Associates personnel during the sampling activities to observe whether pH was reduced. The pH measurements during sampling indicated that five monitoring wells (all deep wells) still had elevated pH after purging was completed. The pH data will be included on field data sheets to be submitted with the groundwater data in the next Progress Report for the reporting period of February 2017 through April 2017.

As discussed with the USEPA, Roux Associates and CFAC will continue to monitor the pH conditions during future sampling events and will continue to provide updates regarding conditions and potential need for corrective actions in future Progress Reports.

2.5 Project Conference Calls

A conference call was held with the project team on November 3, 2016. Representatives from USEPA, MDEQ, CFAC, and Roux Associates were present for the call. During the call, topics discussed included work progress, data review, and schedule. CFAC and Roux Associates will continue to participate in project conference calls throughout the RI/FS process as requested by USEPA.

3.0 WORK PLANNED FOR NEXT REPORTING PERIOD

This section summarizes the work planned for the next reporting period of February 2017 through April 2017.

3.1 Preparation of the Phase I Site Characterization Data Summary Report and SLERA Summary Report

Roux Associates and CFAC will continue to review and analyze the field and laboratory data generated during the Phase I Site Characterization Program. A summary and evaluation of the data will be provided in the Phase I Site Characterization Data Summary Report and the SLERA Summary Report. The draft reports will be submitted to USEPA and MDEQ for review on, or before, March 1, 2017.

3.2 Groundwater and Surface Water Sampling Round Three

The third round of groundwater and surface water sampling will commence in March 2017. Samples will be collected in accordance with the RI/FS Work Plan, Phase I SAP, Phase I SAP Addendum, and any applicable SAP Modifications. Hydrometrics personnel will support Roux Associates in the sampling efforts. Results of the surface water and groundwater sampling will be presented in future Progress Reports.

3.3 Investigation Derived Waste Disposal

Water IDW containers will remain onsite through the third round of groundwater and surface water sampling. Waste characterization sample results from water IDW will be provided to USEPA and MDEQ for review prior to disposal. Based on the sample results, Roux Associates, with the support of Cascade Drilling, will coordinate water disposal in accordance with the IDW Management Plan.

3.4 Concrete Sampling and Data Evaluation

Sampling and laboratory analysis of concrete from the pot line floors and basements of the Main Plant building is planned to commence in late February or early March, 2017. The Scope of Work for the concrete sampling activities is described in the Concrete Sampling and Analysis Plan dated August 31, 2016. The sampling activities are designed to determine if the concrete is suitable for use as subgrade backfill as part of the ongoing demolition activities being conducted by Calbag Resources (Calbag). Results of the concrete sampling activities will be provided to the USEPA and MDEQ for review in letter summary reports after each sampling event.

3.5 Summer 2017 Field Activities Scope of Work

During the next reporting period, CFAC and Roux Associates will prepare a proposed scope of work for field activities to be completed at the CFAC Site during the Summer of 2017. The proposed Scope of Work will be discussed with the USEPA and MDEQ, and will be documented in a letter sampling and analysis plan. The work will also be summarized in future Progress Reports.

4.0 DATABASE UPDATES

Validation of laboratory data from the Phase I Site Characterization is being performed by Laboratory Data Consultants (LDC) as a subcontractor to Roux Associates. In January 2017, LDC provided Roux Associates ten sets of validated analytical data from round two of groundwater and surface water sampling. All sets of data were uploaded to the CFAC RI/FS database in January 2017 by Roux Associates. The remaining data from round two will be complete in February 2017 and will be uploaded to the database upon completion.

Validated data will continue to be imported into the project database and managed in accordance with the data management procedures outlined in Section 7.10 of the QAPP. Future progress reports will discuss updates to the project database.

5.0 SCOPE/SCHEDULE REVISIONS

An updated Phase I Site Characterization schedule is attached to this Progress Report in Appendix A. The schedule was updated to reflect the progress as a result of the activities completed through January 2017. No changes to the schedule are expected at this time for the remaining Phase I Site Characterization tasks.

After submittal of the draft Phase I Site Characterization Data Summary Report and draft SLERA Summary Report to USEPA, Roux Associates and CFAC will develop an updated RI/FS project schedule, which will be provided in the next Progress Report.

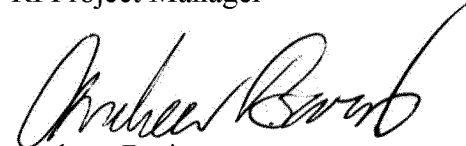
On behalf of CFAC, Roux Associates will continue to pursue the overall objectives described in the AOC and the RI/FS Work Plan. Roux Associates will continue to inform the USEPA of completed and upcoming activities pursuant to the requirements of the AOC in future progress reports.

Respectfully submitted,

ROUX ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Michael Ritorto".

Michael Ritorto
Principal Hydrogeologist /
RI Project Manager

A handwritten signature in black ink, appearing to read "Andrew Baris".

Andrew Baris
Vice President /Principal Hydrogeologist
RI/FS Project Manager

TABLES

1. Surface Water Samples Collected through December 2016
2. Groundwater Samples Collected through December 2016

Table 1. Phase I Site Characterization Surface Water Samples
Remedial Investigation / Feasibility Study, Columbia Falls Aluminum Company, Columbia Falls, MT

Location ID	Date Completed Round 1	Date Completed Round 2	Site Feature
CFSW-001	9/16/2016	12/2/2016	Flathead River
CFSW-002	9/16/2016	12/2/2016	Flathead River
CFSW-003	9/9/2016	12/1/2016	Seep Area
CFSW-004	9/9/2016	12/1/2016	Seep Area
CFSW-005	9/9/2016	12/1/2016	Seep Area
CFSW-006	9/9/2016	12/1/2016	Flathead River
CFSW-007	9/16/2016	12/2/2016	Flathead River
CFSW-008	9/16/2016	12/2/2016	Flathead River
CFSW-009	6/7/2016	DRY	Cedar Creek Reservoir Overflow Ditch
CFSW-010	6/7/2016	DRY	Cedar Creek Reservoir Overflow Ditch
CFSW-011	6/7/2016	DRY	Cedar Creek Reservoir Overflow Ditch
CFSW-012	6/7/2016	DRY	Cedar Creek Reservoir Overflow Ditch
CFSW-013	6/7/2016	11/30/2016	Cedar Creek Reservoir Overflow Ditch
CFSW-014	8/29/2016	11/30/2016	Cedar Creek
CFSW-015	8/29/2016	11/30/2016 and 12/20/2016	Cedar Creek
CFSW-016	8/29/2016	11/30/2016	Cedar Creek
CFSW-017	9/16/2016	12/2/2016	Flathead River
CFSW-018	6/6/2016	12/1/2016	South Percolation Ponds
CFSW-019	6/6/2016	12/1/2016	South Percolation Ponds
CFSW-020	6/6/2016	12/1/2016	South Percolation Ponds
CFSW-021	6/6/2016	11/30/2016	Northern SW Area
CFSW-022	6/6/2016	DRY	Northern SW Area
CFSW-023	DRY	DRY	Northwest Percolation Pond
CFSW-024	DRY	DRY	Northeast Percolation Pond

Table 2. Phase I Site Characterization Groundwater Sampling
Remedial Investigation / Feasibility Study, Columbia Falls Aluminum Company, Columbia Falls, MT

Proposed Location ID	Location Type	Screen Type	Date Completed Round 1	Date Completed Round 2
CFMW-001	Existing Monitoring Well	Upper Hydrogeologic Unit	9/20/2016	12/12/2017
CFMW-002	New Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	Insufficient Water to sample
CFMW-003	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/9/2016
CFMW-003a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/20/2016	12/12/2016
CFMW-007	Existing Monitoring Well	Upper Hydrogeologic Unit	9/21/2016	12/12/2016
CFMW-008	Existing Monitoring Well	Upper Hydrogeologic Unit	9/21/2016	12/16/2016
CFMW-008a	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/16/2016
CFMW-010	New Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/15/2016
CFMW-011	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/8/2016
CFMW-011a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/20/2016	12/14/2016
CFMW-012	Existing Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/14/2016
CFMW-012a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/15/2016	12/13/2016
CFMW-014	Existing Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/15/2016
CFMW-015	Existing Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/15/2016
CFMW-016	New Monitoring Well	Upper Hydrogeologic Unit	Insufficient Water to sample	Insufficient Water to sample
CFMW-016a	New Monitoring Well	Upper Hydrogeologic Unit	9/21/2016	12/14/2016
CFMW-017	Existing Monitoring Well	Upper Hydrogeologic Unit	Insufficient Water to sample	Insufficient Water to sample
CFMW-018	New Monitoring Well	Upper Hydrogeologic Unit	Insufficient Water to sample	Insufficient Water to sample
CFMW-019	Existing Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/15/2016
CFMW-019a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/20/2016	12/14/2016
CFMW-020	Existing Monitoring Well	Upper Hydrogeologic Unit	9/20/2016	12/13/2016
CFMW-021	Existing Monitoring Well	Upper Hydrogeologic Unit	9/12/2016	12/14/2016
CFMW-022	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/9/2016
CFMW-023	Existing Monitoring Well	Upper Hydrogeologic Unit	9/21/2016	12/19/2016
CFMW-025	Existing Monitoring Well	Upper Hydrogeologic Unit	Insufficient Water to sample	Insufficient Water to sample
CFMW-025a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/13/2016	12/5/2016
CFMW-025b	Existing Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/7/2016
CFMW-026	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/5/2016
CFMW-027	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/14/2016
CFMW-028	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/5/2016
CFMW-028a	New Monitoring Well	Upper Hydrogeologic Unit	9/20/2016	12/9/2016
CFMW-029	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/14/2016
CFMW-031	Existing Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/9/2016
CFMW-032	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/13/2016
CFMW-032a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/16/2016	12/16/2016
CFMW-033	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/6/2016
CFMW-034	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/13/2016
CFMW-035	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/13/2016
CFMW-037	New Monitoring Well	Upper Hydrogeologic Unit	9/16/2016	12/8/2016
CFMW-038	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/9/2016
CFMW-040	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/13/2016
CFMW-042	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	Insufficient Water to sample
CFMW-043	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/14/2016
CFMW-044	Existing Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/9/2016
CFMW-044a	New Monitoring Well	Upper Hydrogeologic Unit	9/19/2016	12/19/2016
CFMW-044b	Existing Monitoring Well	Below Upper Hydrogeologic Unit	9/19/2016	12/19/2016
CFMW-045	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/14/2016
CFMW-045a	New Monitoring Well	Upper Hydrogeologic Unit	9/19/2016	12/9/2016
CFMW-047	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/15/2016
CFMW-049	Existing Monitoring Well	Upper Hydrogeologic Unit	9/21/2016	12/15/2016
CFMW-049a	New Monitoring Well	Upper Hydrogeologic Unit	9/16/2016	12/15/2016
CFMW-050	New Monitoring Well	Upper Hydrogeologic Unit	9/19/2016	12/15/2016
CFMW-053	Existing Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/12/2016
CFMW-053a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/19/2016	12/19/2016
CFMW-054	New Monitoring Well	Upper Hydrogeologic Unit	9/14/2016	12/12/2016
CFMW-056	Existing Monitoring Well	Below Upper Hydrogeologic Unit	9/20/2016	12/13/2016
CFMW-056a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/20/2016	12/6/2016
CFMW-056b	New Monitoring Well	Upper Hydrogeologic Unit	9/13/2016	12/12/2016
CFMW-057	Existing Monitoring Well	Below Upper Hydrogeologic Unit	9/19/2016	12/5/2016
CFMW-057a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/19/2016	12/16/2016
CFMW-059	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/12/2016
CFMW-059a	New Monitoring Well	Below Upper Hydrogeologic Unit	9/19/2016	12/16/2016
CFMW-061	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/7/2016
CFMW-064	New Monitoring Well	Upper Hydrogeologic Unit	9/15/2016	12/7/2016

APPENDIX A

Project Schedule

